

We Claim:

1. Power supply module for an implantable device comprising:
- a power supply module having a biocompatible outer housing;
 - a main module;
 - a repeatedly rechargeable ^{where} electrochemical battery for supplying electrical power to the main module of the implantable device; and
 - a coupling element through which the electrical power is supplied by the battery to the main module;
- ^{where} wherein a detector element is provided within a hermetically sealed protective enclosure;
- and
- ^{where} wherein the detector element is connected to at least one ^{interfered} switching element, said at least one switching element preventing at least one of recharging and discharging of the battery when the detector element detects that the battery is in an unallowable operating state.
2. Power supply module as claimed in claim 1, wherein the coupling element is in metallic contact with said battery.
3. Power supply module as claimed in claim 1, wherein the coupling element is metallically separated from said battery and is inductively connected thereto.
4. Power supply module as claimed in claim 1, wherein the coupling element is detachably connected to said battery.

6. Power supply module as claimed in claim 1, wherein said hermetically sealed protective enclosure is formed by a protective housing located within said outer housing; and wherein the coupling element is formed of two parts, a part of which that is assigned to the power supply module being integrated into the protective housing.

7. Power supply module as claimed in claim 1, wherein the coupling element is formed of two parts, one part of the coupling element being assigned to the power supply module and being electrically connected to the power supply module via a flexible connecting lead.

8. Power supply module as claimed in claim 1, wherein the coupling element is formed of two parts, one part of the coupling element being assigned to the main module and being integrated in a housing of the main module.

9. Power supply module as claimed in claim 1, wherein the coupling element is formed of two parts, one part of the coupling element being assigned to the main module and being electrically connected to the main module via a flexible connecting lead.

10. Power supply module as claimed in claim 1, wherein the outer housing of the power supply module accommodates charging/discharging electronics for controlling at least one of recharging and discharging of the battery.

11. Power supply module as claimed in claim 1, wherein said hermetically sealed protective enclosure is formed by a protective housing located within said outer housing; and wherein the protective housing accommodates charging/discharging electronics for controlling at least one of recharging and discharging of the battery.

12. Power supply module as claimed in claim 1, wherein the main module comprises charging/discharging electronics for controlling at least one of recharging and discharging of the battery.

13. Power supply module as claimed in claim 1, further comprising a charging current feed arrangement into which power can be supplied via an external charging device, said charging current feed arrangement being separated from the power supply module and the main module.

14. Power supply module as claimed in claim 13, wherein the outer housing of the power supply module accommodates the charging current feed arrangement.

15. Power supply module as claimed in claim 13, wherein said hermetically sealed protective enclosure is formed by a protective housing located within said outer housing; and wherein the protective housing accommodates the charging current feed arrangement.

16. Power supply module as claimed in claim 13, wherein the housing of the main module accommodates the charging current feed arrangement.

17. Power supply module as claimed in claim 13, wherein the charging current feed arrangement comprises at least one coil of biocompatible metal which is surrounded by a biocompatible polymer and which is fixed on an outer side of the housing of the main module.

18. Power supply module as claimed in claim 13, wherein said hermetically sealed protective enclosure is formed by a protective housing located within said outer housing; and wherein the charging current feed arrangement comprises at least one coil of a biocompatible metal which is surrounded by a biocompatible polymer, and is fixed on the protective housing.

19. Power supply module as claimed in claim 13, wherein the charging current feed arrangement comprises a receiving coil and is located on a longitudinal end of one of the main module and the outer housing; and wherein a straight line running in a direction of the main module forms an angle in a range from 5 to 25° with a line which is perpendicular to an axial direction of the receiving coil.

20. Power supply module as claimed in claim 19, wherein the receiving coil is affixed on said one of the main module and the outer housing in a flexible manner by means of a biocompatible polymer which surrounds the receiving coil.

21. Power supply module as claimed in claim 1, wherein said at least one switching element is mechanically actuatable by the detector element in response to occurrence of said unallowable operating state of the battery is integrated in said outer housing.

22. Power supply module as claimed in claim 1, wherein said hermetically sealed protective enclosure is formed by a protective housing located within said outer housing; and wherein said at least one switching element is mechanically actuatable by the detector element in response to occurrence of said unallowable operating state of the battery is integrated in said protective housing.

22. Power supply module as claimed in claim 1, further comprising evaluation electronics for monitoring the detector element; and wherein said at least one switching element is electrically actuatable by said evaluation electronics .

23. Power supply module as claimed in claim 22, wherein the evaluation electronics are held by the outer housing.

24. Power supply module as claimed in claim 22, wherein the main module comprises the evaluation electronics.

25. Power supply module as claimed in claim 1, wherein the coupling element further comprises means for transmitting an electrical signal in addition to said supplying of said electrical power.

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26. ~~Power supply module as claimed in claim 1, wherein the power supply module also supplies electric power to a secondary module which is connectable to the main module.~~

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